



UNITED STATES PATENT AND TRADEMARK OFFICE

OCT 23 2006

TAPE
1A/P25

BFW
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	SEARCH NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,985	7590	12/06/2002	Michael Bowman	124457-1/GE3-0016	4521
				EXAMINER	
				JONES, MELVIN	
				ART UNIT	PAPER NUMBER
				3744	

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

BEST AVAILABLE COPY

Office Action Summary for Applications Under Accelerated Examination	Application No.	Applicant(s)
	10/065,985	BOWMAN ET AL.
	Examiner	Art Unit
	Melvin Jones	3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
 Since this application has been granted special status under the accelerated examination program,
NO extensions of time under 37 CFR 1.136(a) will be permitted and a SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE:

ONE MONTH OR THIRTY (30) DAYS, WHICHEVER IS LONGER,
 FROM THE MAILING DATE OF THIS COMMUNICATION – if this is a non-final action or a Quayle action.
 (Examiner: For FINAL actions, please use PTOL-326.)

The objective of the accelerated examination program is to complete the examination of an application within twelve months from the filing date of the application. Any reply must be filed electronically via EFS-Web so that the papers will be expeditiously processed and considered. If the reply is not filed electronically via EFS-Web, the final disposition of the application may occur later than twelve months from the filing of the application.

Status

- 1) Responsive to communication(s) filed on 29 October 2004.
 2) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 3) Claim(s) 1-86 is/are pending in the application.
 3a) Of the above claim(s) _____ is/are withdrawn from consideration.
 4) Claim(s) 33-86 is/are allowed.
 5) Claim(s) 1 and 2 is/are rejected.
 6) Claim(s) 3-32 is/are objected to.
 7) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 8) The specification is objected to by the Examiner.
 9) The drawing(s) filed on 11/17/2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 10) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 11) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>92004,22403,22403,102904,12602</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1& 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Novotny et al (US Patent No. 6,438,984). Novotny discloses a system for cooling an electronic component and comprising: a blower adapted for use as a turbo-machinery and providing a high flux means of cooling, a system (31) with electronic components attached to a surface (33), an airflow across a heat sink (37), a pump (66) and a compressor (96) with a motor drive/control electronics (see column 8).

Allowable Subject Matter

Allowable Subject Matter

Claims 33-86 are allowed over the prior art of record.

Claims 3-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments, see amendment, filed 10/29/2004, with respect to claims 1-86 have been fully considered and are persuasive. The restriction of claims 1-86 has been withdrawn.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Jones whose telephone number is (571)272-4810. The examiner can normally be reached on Monday- Wednesday & Friday.

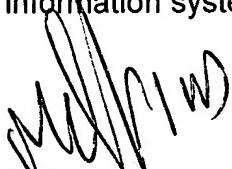
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Application/Control Number: 10/065,985
Art Unit: 3744

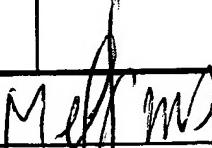
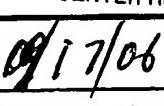
Page 4

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

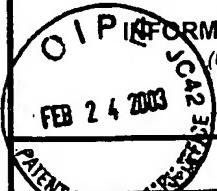


Melvin Jones
Primary Examiner
Art Unit 3744

MELVIN JONES
PRIMARY EXAMINER

INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>				Docket Number (Optional) 124457 (GE3-0016)		Application Number 10/065,985		
				Applicant(s) Niskayuna Mehmet Arik, et al.				
				Filing Date December 6, 2002		Group Art Unit 3743		
U.S. PATENT DOCUMENTS								
*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
MP		6,198,627 B1	03/2001	Rochling, et al.	361	688		
WY		6,587,335 B1	07/2003	Nelson, et al.	361	687		
								
U.S. PATENT APPLICATION PUBLICATIONS								
*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
MP		2002/0010743 A1	01/2002	Ryan, et al.	709	205		
FOREIGN PATENT DOCUMENTS								
	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO
WY		DE 196 25 606 A1	01/1998	Germany	G06F	1/20		✓
WY		2002-26560	01/2002	Japan	H05K	7/20		✓
OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>								
		A copy of the Patent Cooperation Treaty International Search Report dated July 13, 2004.						
RECEIVED								
SEP 23 2004								
TECHNOLOGY CENTER R3700								
EXAMINER 				DATE CONSIDERED 				
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								

INFORMATION DISCLOSURE CITATION <small>(use several sheets if necessary)</small>				ATTY DOCKET NO. 124457-1/GE3-0016	SERIAL NO. 10/065,985	
				FILING December 6, 2002	GROUP <i>3744</i>	
U.S. PATENT DOCUMENTS						
*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
RECEIVED						
<small>FEB 25 2003</small> <small>TECHNOLOGY CENTER R3700</small>						
FOREIGN PATENT DOCUMENTS						
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
(including Author, Title, Date, Pertinent Pages, Etc.)						
<i>MS</i>	Abdel-Rahman, E. et al., "Size Considerations in Interfacing Thermoacoustic Coolers with Electronics", 2002 Inter Society Conference on Thermal Phenomena, pages 421-424.					
<i>MS</i>	Afanas'yev, V.N. et al., "Thermohydraulics of Flow Over Isolated Depressions (Pits, Grooves) in a Smooth Wall", Heat Transfer Research, Vol. 25, No. 1, 1993, pages 22-56.					
<i>MS</i>	Afanas'yev, V.N. et al., "Turbulent Flow Friction and Heat Transfer Characteristics for Spherical Cavities on a Flat Plate", Experimental Thermal and Fluid Science, Vol. 7, 1993, pages 1-8.					
<i>MS</i>	Bash, Cullen E. et al., "Acoustic Compression for the Thermal Management of Multi-Load Electronic Systems", 2002 Inter Society Conference on Thermal Phenomena, pages 395-402.					
EXAMINER <i>Michael Bowman</i>	DATE CONSIDERED <i>9/17/06</i>					
<small>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</small>						



INFORMATION DISCLOSURE CITATION
 (Use several sheets if necessary)

• FEB 24 1963

(Use several sheets if necessary)

ATTY DOCKET NO.
124457-1/GE3-0016

SERIAL NO.
10/065,985

Michael Bowman et al.

FILING
December 6, 2002

GROUP

3744

U.S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

OTHER DOCUMENTS (*Including Author, Title, Date, Pertinent Pages, Etc.*)

Chyu, M.K. et al., "Concavity Enhanced Heat Transfer in an Internal Cooling Passage", IGTI Turbo Expo, Paper No. 97-GT-437, Orlando, 1997, pages 1-7.

Dickinson, Randall D. et al., "A System Design Approach to Liquid-Cooled Microprocessors", 2002 Inter Society Conference on Thermal Phenomena, pages 413-420.

Gillespie, David R. H. et al., "Detailed Flow and Heat Transfer Coefficient Measurements in a Model of an Internal Cooling Geometry Employing Orthogonal Intersecting Channels", Paper No. 2000-GT-653, IGTI Turbo Expo, Munich, 2000, pages 1-8.

EXAMINER

DATE CONSIDERED

9/17/04

***EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<p style="text-align: center;">01 INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)</p> <p>FEB 24 2003</p> <p>SCA2</p>			ATTY DOCKET NO. 124457-1/GE3-0016		SERIAL NO. 10/065,985	
			Michael Bowman et al.		FILING December 6, 2002	
U.S. PATENT DOCUMENTS						
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
RECEIVED						
FEB 25 2003						
TECHNOLOGY CENTER R3700						
FOREIGN PATENT DOCUMENTS						
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
						YES
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)						
WJ		Goreloff, V. et al., "The Investigation of Heat Transfer in Cooled Blades of Gas Turbines", AIAA Paper No. 90-2144, 26th Joint Propulsion Conference, Orlando, 1990, pages 1-5.				
		Heydari, Ali, "Miniature Vapor Compression Refrigeration Systems for Active Cooling of High Performance Computers", 2002 Inter Society Conference on Thermal Phenomena, pages 371-378.				
WJ		Kesarev, V.S. et al., "Convective Heat Transfer in Turbulized Flow Past a Hemispherical Cavity", Heat Transfer Research, Vol. 25, 1993, pages 156-160.				
EXAMINER <i>M. Bowman</i>	DATE CONSIDERED <i>9/17/04</i>					
<p>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>						

INFORMATION DISCLOSURE CITATION <small>(Use several sheets if necessary)</small>				Docket Number (Optional) 124457-1 (GE3-0016)	Application Number 10/065,985		
				Applicant(s) Micheal Bowman, et al.			
				Filing Date December 06, 2002	Group Art Unit 3744		
U.S. PATENT DOCUMENTS							
*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
(M)		6,033,506	03/2000	Klett	156	78	
U.S. PATENT APPLICATION PUBLICATIONS							
*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
FOREIGN PATENT DOCUMENTS							
	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation
							YES
							NO
OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>							
		Osgood, Sarah, "Heat Transfer in Carbon Foam". Master's Thesis, Department of Mechanical Engineering, Rensselaer Polytechnic Institute, Troy, NY, November 2001.					
EXAMINER <i>M. J. Bowman</i>				DATE CONSIDERED <i>9/17/04</i>			
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

Electronic Information Disclosure Statement

JC474 U.S. PTO
J10/065985

METHOD, SYSTEM AND APPARATUS FOR COOLING HIGH POWER DENSITY DEVICES

Application:

Confirmation:

Applicant(s): Mehmet Arik

Docket Number: 124457-1

Group Art Unit:

Examiner:

search string: (6468150 or 6438984 or 6119987 or 6029742 or 5380956).pn.

12/06

US Patent Documents

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

init	Citation No.	Patent Number	Date	Bar Code	Patentee	Class	Subclass
M	P01	6468150	2002-10-22	[Barcode]	Langdon et al.	454	184
M	P02	6438984	2002-08-27	[Barcode]	Novotny et al.	62	259.2
W	P03	6119987	2000-09-19	[Barcode]	Kiknadze et al.	244	204
M	P04	6029742	2000-02-29	[Barcode]	Burward-Hoy	165	80.4
M	P05	5380956	1995-01-10	[Barcode]	Loo et al.	174	252

Signature

Examiner Name	Date
	9/17/04

Notice of References Cited		Application/Control No.	Applicant(s)/Patent Under Reexamination BOWMAN ET AL.	
		Examiner Melvin Jones	Art Unit 3744	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,380,956	01-1995	Loo et al.	174/252
*	B	US-6,161,768	12-2000	Gordon et al.	237/12.1
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

BLACK BORDERS

IMAGE CUT OFF AT TOP, BOTTOM OR SIDES

FADED TEXT OR DRAWING

BLURRED OR ILLEGIBLE TEXT OR DRAWING

SKEWED/SLANTED IMAGES

COLOR OR BLACK AND WHITE PHOTOGRAPHS

GRAY SCALE DOCUMENTS

LINES OR MARKS ON ORIGINAL DOCUMENT

REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY

OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.

Organization TCJ700 P.O. DPH
U.S. DEPARTMENT OF COMMERCE Bidg/Room
COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450
IF UNDELIVERABLE RETURN IN TEN DAYS
OFFICIAL BUSINESS

AN EQUAL OPPORTUNITY EMPLOYER

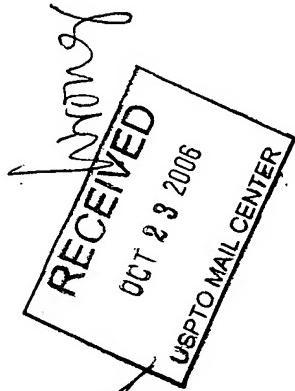


REFUSED



Return to sender

enclosure



Received
May 1105 Stone C
G